

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

PUBLICATION NUMBER : 07064023  
PUBLICATION DATE : 10-03-95

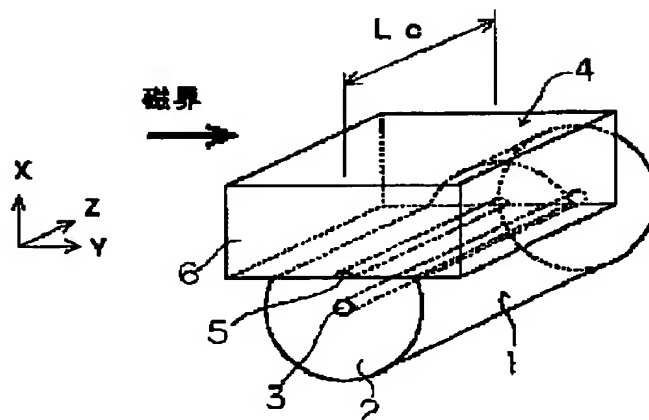
APPLICATION DATE : 26-08-93  
APPLICATION NUMBER : 05211482

APPLICANT : KYOCERA CORP;

INVENTOR : SATO YASUSHI;

INT.CL. : G02B 27/28 G02B 6/00 G02B 6/16

TITLE : FIBER TYPE OPTICAL ISOLATOR



**ABSTRACT :** PURPOSE: To provide an optical isolator which is small in size, low in cost and simple in constitution and has high versatility by impressing a magnetic field perpendicular to a progressing direction of light to a waveguide layer consisting of a magneto-optical material to generate non-reciprocity distribution coupling between an optical fiber and a non-reciprocity waveguide.

CONSTITUTION: This fiber type optical isolator is constituted by removing a part of a clad 2 of an ordinary single mode optical fiber 1 for transmission formed by using an isotropic material, such as quartz glass, and loading the non-reciprocity waveguide 4 consisting of the magneto-optical material thereon. A waveguide layer 5 which is formed on the non-reciprocity waveguide 4 and varies in refractive index is similarly formed out of magneto-optical material. Reflection and scattering at the terminal of the non-reciprocity waveguide 4 are eliminated and the characteristics are improved if a light absorptive material 6 is mounted at the terminal. The magnetic field is impressed in the direction Y perpendicular to the progressing direction in order to generate a non-reciprocity phase shift in the non-reciprocity waveguide 4. The light propagating in the core 3 of the optical fiber 1 generates distribution coupling with the waveguide layer 5 in the part where the non-reciprocity waveguide 4 exists. The light power is thus transferred.

COPYRIGHT: (C)1995,JPO

BEST AVAILABLE COPY